

**We claim:**

1. A method of acquiring incoming signals in a wireless network device, comprising:
  - acquiring the incoming signals using a default acquisition preamble having a default synchronization period;
  - evaluating the incoming signals to determine whether first signal parameters are met;
  - changing to a first alternate acquisition preamble having a first alternate synchronization period if the first signal parameters are met;
  - evaluating the incoming signals to determine whether second signal parameters are met; and
  - changing to a second alternate acquisition preamble having a second alternate synchronization period if the second parameters are met,wherein the default synchronization period, the first alternate synchronization period, and the second alternate synchronization period all have different values.
2. A method of acquiring incoming signals in a wireless network device, as recited in claim 1,
  - wherein the default acquisition preamble is a normal preamble having a normal synchronization period,
  - wherein the first acquisition alternate preamble is a short preamble having a short synchronization period,

wherein the second alternate acquisition preamble is a long preamble having a long synchronization period, and

wherein the normal synchronization period is longer than the short synchronization period, and the long synchronization period is longer than the normal synchronization period.

3. A method of acquiring incoming signals in a wireless network device, as recited in claim 2,

wherein the first signal parameters are met if the signal strength is below a first threshold, and

wherein the second signal parameters are met if the signal strength is above a second threshold.

4. A method of acquiring incoming signals in a wireless network device, as recited in claim 2,

wherein the first signal parameters are met if a number of requested packet retransmissions per unit time in the wireless network device is below a first threshold, and

wherein the second signal parameters are met if the number of requested packet retransmissions per unit time in the wireless network device is above a second threshold.

5. A method of acquiring incoming signals in a wireless network device, as recited in claim 2,

wherein the normal acquisition preamble includes a normal decision feedback equalization training period,

wherein the long acquisition preamble includes a long decision feedback equalization training period, and

wherein the long decision feedback equalization training period is longer than the normal decision feedback equalization training period.

6. A method of acquiring incoming signals in a wireless network device, as recited in claim 1,

wherein the default acquisition preamble is a short preamble having a short synchronization period,

wherein the first acquisition alternate preamble is a normal preamble having a normal synchronization period,

wherein the second alternate acquisition preamble is a long preamble having a long synchronization period, and

wherein the normal synchronization period is longer than the short synchronization period, and the long synchronization period is longer than the normal synchronization period.

7. A method of acquiring incoming signals in a wireless network device, as recited in claim 6,

wherein the first signal parameters are met if the signal strength is below a first threshold but not below a second threshold, and

wherein the second signal parameters are met if the signal strength is below both the first and second thresholds.

8. A method of acquiring incoming signals in a wireless network device, as recited in claim 6,

wherein the first signal parameters are met if a number of requested packet retransmissions per unit time in the wireless network device is below a first threshold but not below a second threshold, and

wherein the second signal parameters are met if the number of requested packet retransmissions per unit time in the wireless network device is below both the first and second thresholds.

9. A method of acquiring incoming signals in a wireless network device, as recited in claim 6,

wherein the normal acquisition preamble includes a normal decision feedback equalization training period,

wherein the long acquisition preamble includes a long decision feedback equalization training period, and

wherein the long decision feedback equalization training period is longer than the normal decision feedback equalization training period.

10. A method of acquiring incoming signals in a wireless network device, as recited in claim 1,

wherein the default acquisition preamble is a long preamble having a long synchronization period,

wherein the first acquisition alternate preamble is a normal preamble having a normal synchronization period,

wherein the second alternate acquisition preamble is a short preamble having a short synchronization period, and

wherein the normal synchronization period is longer than the short synchronization period, and the long synchronization period is longer than the normal synchronization period.

11. A method of acquiring incoming signals in a wireless network device, as recited in claim 10,

wherein the first signal parameters are met if the signal strength is above a first threshold but not above a second threshold, and

wherein the second signal parameters are met if the signal strength is above both the first and second thresholds.

12. A method of acquiring incoming signals in a wireless network device, as recited in claim 10,

wherein the first signal parameters are met if a number of requested packet retransmissions per unit time in the wireless network device is above a first threshold but not above a second threshold, and

wherein the second signal parameters are met if the number of requested packet retransmissions per unit time in the wireless network device is above both the first and second thresholds.

13. A method of acquiring incoming signals in a wireless network device, as recited in claim 10,

wherein the normal acquisition preamble includes a normal decision feedback equalization training period,

wherein the long acquisition preamble includes a long decision feedback equalization training period, and

wherein the long decision feedback equalization training period is longer than the normal decision feedback equalization training period.

14. A method of acquiring incoming signals in a wireless network device, as recited in claim 1, wherein the wireless network device is an ultrawide bandwidth device.

15. A method of acquiring incoming signals in a wireless network device, comprising:

acquiring the incoming signals using a default acquisition preamble having a default synchronization period;

evaluating the incoming signals to determine whether  $i^{\text{th}}$  signal parameters are met; and

changing to an  $i^{\text{th}}$  alternate acquisition preamble having an  $i^{\text{th}}$  synchronization period if the  $i^{\text{th}}$  signal parameters are met,

wherein  $k$  is an integer greater than 1,

wherein  $i$  is an integer that varies from 1 to  $k$ ,

wherein the first through  $k^{\text{th}}$  synchronization periods all have different values, and

wherein the first through  $k^{\text{th}}$  signal parameters are mutually exclusive.

16. A method of acquiring incoming signals in a wireless network device, as recited in claim 15, wherein the wireless network device is an ultrawide bandwidth device.